MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2019/2020

HAP1011 – HUMAN ANATOMY AND PHYSIOLOGY

(All section / Groups)

14 OCTOBER 2019
2:30 p.m – 4:30 p.m
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of **4 pages** with **5 Questions** only.
2. Attempt **ALL FIVE** questions. All questions carry equal marks and the distribution of the marks for each question is given.
3. Please print all your answers in the Answer Booklet provided.

Answer ALL questions [50 marks, 10 marks each]

Question 1

A. What is positive feedback system in homeostasis? How is body temperature maintained during hot condition by homeostasis? **[2 marks]**

B. What causes resting membrane potential? Why is it important? **[2 marks]**

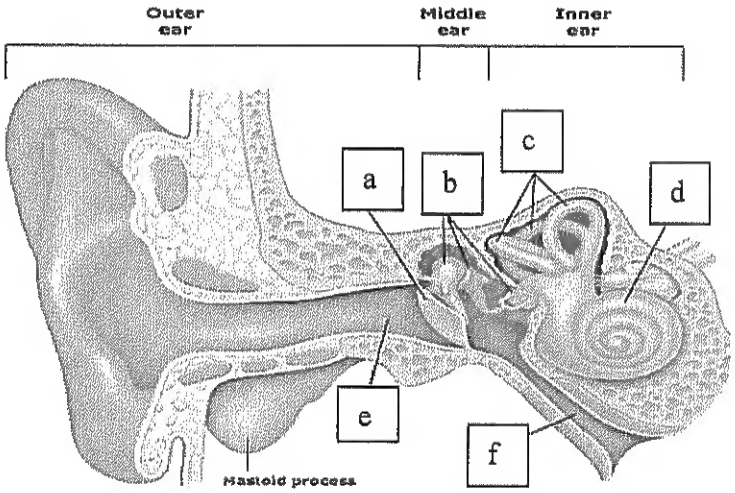
C. What are the FOUR major components of stretch reflex? **[2 marks]**

D. How does the Golgi tendon organ prevent muscle damage? **[2 marks]**

E. What are proprioreceptors and where are they located ? **[2 marks]**

Question 2

A. Name the component labeled as a, b, c, d, e and f in the diagram below. **[3 marks]**



B. Distinguish in term of focal point and the corrective lens used between myopia, hyperopia and astigmatism. **[3 marks]**

C. How does epidermal ridge form? Why do we have fingerprints on only our palms of the hand or the soles of the feet? **[2 marks]**

D. What are the FOUR effects of aging on skeletal system? **[2 marks]**

Continued...

Question 3

A. A long-distance runner is about to enter a 5-mile race. Beforehand, he spends several minutes warming up. During the warm-up period, the phenomenon of treppe is occurring in body muscles being used. What is treppe and why does it occur? **[2 marks]**

B. Why is oxygen so much more critical to the heart muscles than to other tissue? **[1 mark]**

C. What causes hemolytic disease of the new born? What happens to the red blood cells in hemolytic disease of the new born? **[2 marks]**

D. A person who drinks a lot of alcoholic beverages urinates frequently. Why? **[0.5 mark]**

E. Name THREE ways that hormone secretion is regulated. **[1.5 marks]**

F. Glucagon and insulin both target the cells of the liver and are both made in the pancreas, yet they have very different effects on the cells they target. What accounts for this fact? **[1 mark]**

G. What is the function of parathyroid hormone? Name ONE target tissue. **[1 mark]**

H. If a condition produced hormone hypersecretion from the adrenal medulla, what symptoms would you expect? List TWO examples. **[1 mark]**

Question 4

A. Describe briefly FOUR steps involved in respiration. **[2 marks]**

B. Where is larynx located? Describe briefly ONE function of larynx. **[1 mark]**

C. Hyperventilating before swimming underwater can increase the time spent under water. Explain how that can happen. **[1 mark]**

D. Suppose a 9 year-old boy had an interstitial cell tumor that resulted in very high levels of testosterone production. Describe TWO effects on his body development. **[1 mark]**

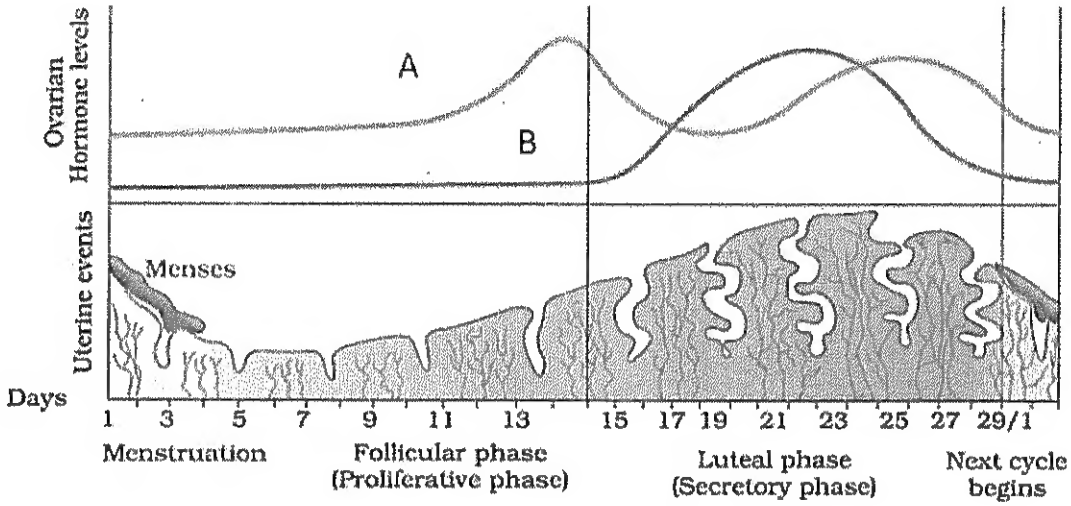
E. List TWO causes of male infertility. **[1 mark]**

Continued...

F. List TWO functions of vagina. **[1 mark]**

G. Describe briefly FOUR physiological changes occurring in the mother during pregnancy. **[2 marks]**

H. Identify the hormone A and B involved in the menstrual cycle. **[1 mark]**



Question 5

A. Describe briefly FOUR functions of the urinary system. **[2 marks]**

B. Explain the role of aldosterone in sodium balance. **[1 mark]**

C. How is water intake regulated by the brain? **[1 mark]**

D. Why is it necessary for the stomach contents to be so acidic? How does the stomach protect itself from digestion? **[2 marks]**

E. Assume you have been chewing a piece of bread for 5 or 6 minutes. How would you expect its taste to change during this time? Why? **[1 mark]**

F. How do active and passive immunotherapy work? **[2 marks]**

G. Describe briefly TWO functions of lymphatic system. **[1 mark]**

End of paper